SUBSTITUTE SPECIFICATION

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MAGNETORHEOLOGICAL CLUTCH

BACKGROUND OF THE INVENTION

[0001] The invention relates to magnetorheological clutches which consist of a stationary part, of a rotatable primary part with primary lamellae and of a secondary part with secondary lamellae which is rotatable about a common axis and surrounds the primary part, there being formed between the primary part and the secondary part a space which contains a magnetorheological fluid and in which primary lamellae and secondary lamellae alternate in the axial direction, and a magnet coil generating a magnetic field of regulatable field strength which acts on the magnetorheological fluid.

[0002] However, for the use of a generic clutch in the drive train of a motor vehicle, current consumption and overall size are critical and must therefore be minimized. In addition to this, there are also further requirements: such a wide regulating range of the transmitted torque that, on the one hand, slip-free starting from standstill and, on the other hand, (also) for reasons of noise, complete separation are possible; and, finally, a rapid response in order to be compatible with electronic drive dynamics controls (ESB, ABS, etc.).

[0003] Thus, US 5,845,753 discloses a generic clutch, in which the yokes extend from one end face on one side of the clutch, so as to surround this on the outside, as far as a second end face on the other side of the clutch. This not only increases the